

Controlled activities – Guidelines for laying pipes and cables in watercourses on waterfront land

The Department of Planning and Environment – Water is responsible for issuing all controlled activity approvals in accordance with the *Water Management Act 2000* for work carried out on waterfront land.

Waterfront land is the bed of any river, lake or estuary, and the land within 40 metres of the highest bank of the river, the shore of the lake or the mean high-water mark of the estuary.

These guidelines relate to the laying of pipes and cables in or across watercourses and adjoining waterfront land for utilities such as sewerage, water, gas, electricity and communications.

The laying of pipes and cables in or across a watercourse is a controlled activity under the *Water Management Act 2000*.

Aims and objectives for laying pipes and cables

The design and construction footprint and extent of disturbance associated with the placement of pipes and cables across a watercourse or on waterfront land should be minimised.

Rehabilitation of disturbed areas post-installation should restore bed and bank stability and the integrity of any existing vegetation on the waterfront land.

Consultation with relevant government agencies at the concept stage of development and during the design phase is recommended so that good outcomes can be identified, planned for and achieved.

Relevant design considerations

The design and installation of pipes and cables on waterfront land should consider, but not be limited to:

- Identifying the width of the riparian corridor in accordance with the department's [guidelines for riparian corridors](#).
- Considering the full width of the riparian corridor and its functions in the location and installation of any pipes and cables. Where possible, the design should accommodate fully structured native vegetation.
- Minimising the design and construction footprint and proposed extent of disturbance to soil and vegetation within the watercourse or waterfront land.
- Utilising existing easements. Pipes and cables should be incorporated within existing cleared or disturbed areas with or adjacent to other crossing points such as roads, particularly if future maintenance and ongoing access is required.

- Maintaining existing or natural hydraulic, hydrologic, geomorphic and ecological functions of the watercourse. Demonstrate that the pipe and cable installations will not have a detrimental impact on these functions.
- Identifying alternative options for works and detail the reasons for selecting the preferred option or options.

Directional boring under a watercourse is preferred to trenching through a watercourse.

- Proposals for directional boring should seek to:
 - minimise or avoid disturbance to channel bed and banks
 - minimise or avoid rehabilitation, maintenance and ongoing costs after construction
 - minimise risks associated with cave-ins, bed collapse or frac-outs during boring
 - ensure depth does not result in exposure of assets if channel experiences bed or bank degradation
 - locate bore entry and exit points outside designated riparian corridors and existing vegetation
 - address the recovery and removal of construction plant and materials, including drilling mud.
- Proposals for trenching should:
 - prepare rehabilitation plans for disturbed bed and banks
 - locate or lay pipes or cables across the watercourse on the downstream side of channel bedrock outcrops and through the drop deposit zone if a plunge pool is present
 - avoid outside bends. Choose a straight section of the watercourse to cross
 - place infrastructure below calculated bank full flow scour depths and allow a safety margin
 - avoid concrete caps and casings at shallow depths which may become exposed by bed lowering
 - ensure backfilling restores the channel shape and bed level to preconstruction condition
 - ensure a trench is open for the minimal length of time
 - avoid stopping the flow of a permanent watercourse by staging the trench across the channel or minimise the time involved in stopping or intercepting flows
 - address additional disturbances from temporary coffer dams or diversion of flows around work site, vehicle or machinery access and crossings and material stockpiles
 - prevent potential water quality issues such as turbidity or spills
 - address the recovery and removal of construction plant and materials.

Information to be submitted for assessment

When seeking approval to install pipes or cables across a watercourse or waterfront land, the department will rely on the above information to undertake its assessment and to determine if the

activity should be approved. All works and activities within watercourses should be designed by suitably qualified persons.

The following additional information may also be required:

- Detailed design drawings of proposed works and structures including engineering certification.
- Detailed design drawings which include a surveyed plan, cross sections across the watercourse and a long section of the watercourse showing proposed works relative to existing and proposed bed and bank profiles and water levels. The cross-section is to extend to the landward limit of the identified riparian corridor. All plans must include a scale bar.
- Detailed report of pre- and post-construction hydraulic, hydrologic and geomorphic conditions.
- Detailed plans of any permanent bed and bank stabilisation works for scour protection.
- Photographs of the site should be supplied. To assist with future monitoring and reporting, all photo points should be identified by GPS coordinates or by survey. This is particularly important for large-scale earthworks or extractive industries.
- Sediment and erosion control plan.
- A vegetation management plan prepared in accordance with the department's [guidelines for vegetation management plans](#).
- A site management plan incorporating a works schedule, sequence and duration of works, contingencies such as in case of flooding, erosion and sediment controls and proposed monitoring and reporting periods.
- Costing of all works including materials and labour and stages of works including channel stabilisation and rehabilitation.
- Copies of other relevant approvals, for example, landowner's consent or development consent.

Maintenance period

Applicants will also need to provide for a maintenance period of between 3 and 5 years after practical completion of each stage or until the site is stable. The maintenance period will depend on the scope, size and level of risk. Engineering certification may be required at the end of the maintenance period. Maintenance includes sediment and erosion control; the replacement of any works, vegetation or areas damaged or destroyed by flows and flooding or vandalism; and any other requirements necessary to ensure a naturalised stable watercourse system is functioning by the end of the maintenance period.

Security deposit may be required

Applicants should note that if the likelihood of significant impact on the watercourse or waterfront land is identified, security (as bank guarantees) may be required before the controlled activity is commenced. The amount of security is usually based on the costings provided.

More information

- For more information about licencing and approvals , visit the department’s website at [water.dpie.nsw.gov.au/licensing-and-trade/ approvals](http://water.dpie.nsw.gov.au/licensing-and-trade/approvals).
- Copies of the Acts and associated regulations are available on the NSW Government legislation site at www.legislation.nsw.gov.au.

If you think you need to make a controlled activity application, our easy-to-use online support tool Water Assist can help you. Visit www.dpie.nsw.gov.au/water/water-assist.